

# Ballarat Naturalist



Trailing Goodenia  
*Goodenia lanata*  
(Club Logo)

## Natural History of the Arctic

Speaker: Helen Burgess

In the northern summer of 2004 Helen took an extended trip – 6 weeks - to the Arctic regions of Europe. Beginning with a circumnavigation of Svalbard (a Norwegian territory since 1925), she then saw something of the east coast of Greenland (Danish) before exploring Iceland and finally the Færoe Islands (Danish).

Svalbard has a population of 3000 of whom 1500 live in the capital Longyearbyen. Situated between 75° and 80° N it experiences average temperatures of -14°C to 6°C which, thanks to the warming influence of the Gulf Stream are higher than might be expected for the latitude. Only 6-7% of the area is vegetated and the islands are affected by permafrost – permanently-frozen ground with only the top metre thawing each summer. This freeze-thaw cycle causes soil movement, expressing itself on the ground surface as polygonal hummocks – rough circles of stones, soil and vegetation.

Plants such as the colourful saxifrages, mountain avens and Svalbard Poppy are some of the 165 species recorded, as well as dwarf birch and polar willow – ground-hugging woody shrubs which are restricted in height by the climate. Large numbers of birds of only a few species are found in these polar regions including Puffins, Little Auks, Guillemots, Glaucous Gulls and Kittiwakes. Thirty species breed in the area, the rest are migratory. The Ptarmigan stay all year.

Mammals include Arctic Fox, Reindeer and Polar Bear; Musk Ox have been introduced. Polar Bears may be shot by indigenous populations for subsistence with an imposed limit of 300 per year. Ringed and Bearded Seals breed on the ice and are protected during the first few months of life. Seals are preyed upon by Killer Whales and Polar Bears. The Walrus is a valuable mammal. Its tusks, skin and blubber are all useful. Being gregarious creatures they are found in groups along the ice edge. Bowhead and Beluga whales are found in these waters and were hunted for subsistence. Helen showed us great deposits of whale bones left in lines along the beach.



She also had clear shots of the flowers, permafrost, seals and walruses, which were followed by spectacular images of icebergs with all their fantastic shapes, seen as the coast of Greenland appeared.

Ice covers 50% of Greenland and reaches thicknesses of 3 km in places. It is 500-100 000 years old. It has been estimated that sea level would rise 6.5m if it melted. The ice cap is rapidly thinning, with one example of a glacier retreating at the rate of 350m per year. The longest glacier is currently 200 km, with its terminus 30-40m high. Precipitation is around 200-300mm per year (rainfall equivalent).

The population of 56,000, largely Inuit, are involved in fishing and hunting. The first Europeans to reach Greenland came in 960 AD with Eric the Red; a Norwegian who had first settled in Iceland. In Iceland Eric had been outlawed and so he sailed to Greenland where he established settlements on the south west coast. Helen visited Scoresbysund, the most extensive fjord complex on the east coast, spectacular with its mountain ridges separated by numerous glaciers. She entertained us with the strange spelling and pronunciation of settlements like Ittoqqortoormiit! In Greenland Helen discovered that the children enjoyed the visits of the tourist ships – quite an occasion.



Djúpivogur - Perched on the Iceland Shore  
Photo by Allison Rose ©

On to Iceland, settled by the Vikings 1100 years ago. The largest ice cap here is the Vatnajökull, 8000 km<sup>2</sup> of ice atop an active volcano, a phenomenon which provided Jules Verne with the scenario for *Journey to the Centre of the Earth*. Also the place is so bleak that it was used as a practice ground for the US astronauts.

Iceland is geologically very young, only 16 million years old. Born from the lava upwelling along the Mid-Atlantic Ridge it is still spreading apart and experiences earth tremors every day (mostly detectable only by seismographs). Water from the many hot springs is used to heat the towns. Geysers spurt high into the air. Helen captured one successfully on film despite its irregular eruptions. The associated Blue Lagoon has a



temperature of 37°C-39°C. Its mineral salts are valued for their therapeutic purposes and the silica mud for facial treatments!

Waterfalls are found in many parts of Iceland and attract tourists for their numerous cascades and volumes of rushing, glacial water. Gullfoss is one of the best known. As seen elsewhere permafrost was apparent with more of the patterned ground.

A windy place – 130kph winds can occur. It is not the country for leaving livestock out all year round. Sheep are tagged and roam freely in summer but are rounded up by owners on horseback and fed indoors during winter. Icelandic horses are considered special and every effort is made to preserve the purity of the breed. Helen's illustrations showed cream and light brown animals with blonde tails and manes. These horses came with the first settlers and today are a valuable export to Europe and the US.

Helen showed us a typical sod-roofed house such as Eric the Red would have lived in and staff in the dwelling demonstrated the making of rye bread. Today's houses are all of imported timber and are painted bright colours. In Eric's time driftwood would have been an important source of house and boat-building materials.

The Færoe Islands consist of eighteen high and flat-topped isles dotted over an area measuring 113 km x 70 km. Once volcanoes shaped by ice, they are now warmed by the Gulf Stream, with temperatures varying between 3°C to 11°C. Snow does not lie for long here. They have a total population of 48,000 with the capital, Torshavn of 17,000. Fishing, including fish-farming is by far the largest industry, followed by tourism.

Helen had slides showing precipitous cliffs on whose ledges thousands of Kittiwakes and Guillemots roosted. 300 species of birds and 400 species of plants are found here.

Having begun her talk with a glorious shot of the midnight sun, Helen finished with a sunset. Her audience thoroughly enjoyed their armchair travel and browsed the album of prints which Helen had compiled as well as asking more questions about her experiences.

Carol Hall

### FNCB Campout Aug 22-26.

#### *Ned's Corner*

Shearers' quarters available for ablutions and kitchen facilities may be used.

So take tents/caravans/camper trailers.

Donation of \$50-\$100 to be made for a group of 10 people.

List for intending participants to sign at August general meeting.



**Some Correspondence.**

In:

- Birds Australia Annual Congress Bendigo 2005

Out:

- Letter of encouragement sent via email to John Thwaites Minister for Environment re Alpine Grazing ban.

**Reports**

- Lake Burrumbeet committee. Attended by P. Dalman & J. Gregurke. After recent rain, lake level up to about 30cm deep. Planting to be done by Corangamite CMA around tyres at Pelican Point and on north side of Caravan Park.
- Winter Swamp has standing water in it now – frogs heard, some birds – Greg Binns.

**General Business**

- Committee recommends \$250 to each of Victorian National Parks Association and Australian Bush Heritage Fund.
- Ned's Corner Campout Aug 22-26. John Gregurke has contacted Trust for Nature re facilities, directions etc. Shearers' quarters not available for sleeping but ablutions and kitchen facilities may be used. So take tents/caravans/camper trailers. Ranger prepared to give a talk. Donation of \$50-\$100 to be made for a group of 10 people. List for intending participants to sign at general meeting.
- Greg Binns invited members to accompany him on Friday July 8<sup>th</sup> to check out Clunes Swamps for birds after the recent rains..

**Field Reports**

- Tony Dyson: Young male elephant seal seen at Eastern Beach, Geelong; chased there by Killer Whale.
- Peter Billing: noted a press report on the largest freshwater fish – a catfish - found in the Mekong River.
- Carol Hall: 27 June on Lake Wendouree: One Darter, 2 Red-kneed Dotterels, 4 Black-fronted Dotterels, upwards of 50 Australian Shovelers.
- John Gregurke/Carol Hall 29 June on the lake: 6 Pink-eared Duck, Swamp Harrier, Swan with only one wing, banded 2000 – wound completely healed.
- Anne Rowland at Nerrina & Brown Hill: mobs of Yellow-tailed Black Cockatoos in pine trees along ridge.
- John Gregurke: at Lake Burrumbeet 2000+ Stilts, mainly Banded with some Black-winged. 2000-3000 ducks mainly Grey Teal and Pink-eared. 3 Brolgas – 2 adults & 1 immature bird.

The Ballarat Mechanics Institute, Twilight Talks Winter Seasons 2005

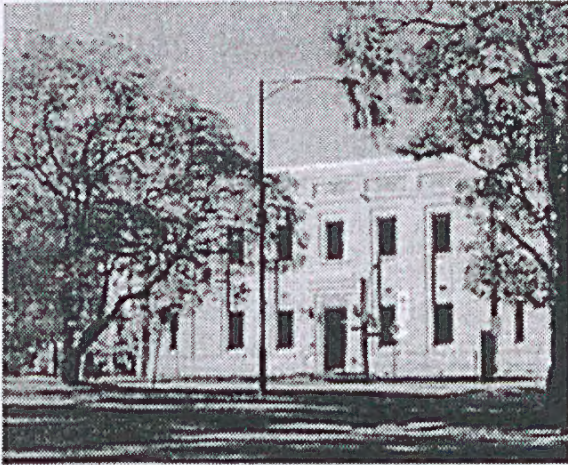
August 12 *The Von Mueller Collection* by Martin Westbrooke



## Excursion: Fungi at the National Herbarium, Royal Botanic Gardens

Leader: Tom May

Nineteen members and visitors, including Ella – Greg and Genny Binns' granddaughter - and Heather Burgess, Helen's sister, set out on an overcast day on our long anticipated trip to the Herbarium, Melbourne. Upon meeting director Tom May we were admitted to this imposing building via the East Door.



Herbarium Old building 1934



Extensions to the building 1980

Its foundation stone was laid on April 27<sup>th</sup> 1934 by confectionery magnate Sir Macpherson Robertson through whose generosity the building was erected (1934 being the centenary year of Victoria). This building replaced the original Herbarium built by Baron Ferdinand von Mueller in the 1850s. Extensions were made in the 1980s.

Work at the Herbarium is an important part of the work of the Royal Botanic Gardens. One million dried specimens are stored; 600,000 of these are Australian, the rest from overseas. There are a number of specimens of each species – this is predominantly the influence of von Mueller which is still felt today. Each dried specimen has a label and is mounted on acid-free archival paper with an outer folder. All the Australian specimens are on a database and are being continually reclassified. Specimens are kept at a cool even temperature of 18°C. The main problem is insects – the building was once fumigated every 6 months with methyl bromide. Today freezing has superseded chemical use and successfully controls insects.

The Herbarium comes under the plant sciences and biodiversity division of the Botanic Gardens, with 6 scientists employed. From time to time there is grant money for special projects. The Gardens has its own board and the bulk of the funding is from the State Government.

There are many Western Australian specimens and the Herbarium has a long tradition of collecting interstate items. A new development is a DNA laboratory in the basement. There is an identification service – a botanist will attempt to identify any specimens sent



in from up country for a fee. This is often the way new species are found. In the last 5-8 years 100 new species have been identified, mostly weeds which have escaped from gardens. The Herbarium has a role to play in educating people about weeds getting out of hand and sees its education role as 3-fold, viz conservation, ecology and soil. There is some support for regional botanical gardens. .

The Herbarium still has scrappy bits of unmounted and dried Australian fungi, some sent in by Alfred Howitt, the explorer of von Mueller's time. A whole network of collectors sent fungi, mosses and lichens via the Herbarium to Europe, most to Kew Gardens in London. Von Mueller also sent material to German, Austrian and Italian mycologists and to the International Exhibition of the time. He was an expert in flowering plants and got early Field Naturalists' Club members to do drawings and paintings which have been inherited by the Herbarium. Detective work is still going on as some of the collection has not been inspected since von Mueller's time.

Presently there is a big project under way to collect all of the correspondence of von Mueller and several volumes have been published. Von Mueller was the first botanist collecting independently and became the colonial government botanist. German by birth, he became a British citizen and was awarded Imperial Honours.

Tom said the best way to dry a specimen is to use a fruit drier as freeze-drying specimens render them very fragile. Pigments may be investigated using paper chromatography to see if anything useful is uncovered. (One mustn't forget that the antibiotic penicillin is a fungus.)

The electron microscope of the University of Melbourne is used to look at fungal spores, as is a light microscope at the Herbarium with the use of different staining techniques. The latest database will have to accommodate digital images. This database, soon available to the public on a limited basis, is a very powerful tool.

The late Brian Andrews entered much data on the target species for Fungimap on the computer in Tom's office. This information helped Tom compile maps. Other data such as rainfall could be superimposed on the distributions. How happy Brian would have been to see us utilising the fruits of his labours.

After our two-hour inspection we had lunch in the environs of the Gardens. Then after wandering through the same for an hour we made for home via Westgate Park, a wildlife haven from the bustle of the city. Observed there were a pair of White-eyed Ducks, Purple Swamphens, Silver Gulls, Red Wattlebird, Black Duck, Magpie-larks, Hoary-headed and Australasian Grebes, Masked Lapwings, Great Egret, Coots, White-plumed Honeyeater, Rainbow Lorikeets and Chestnut Teal.

A big thank you to the capable bus driver John Gregurke who negotiated for us Melbourne's traffic snarls with fortitude.

Tony Johns.



SEANA Spring Camp  
*Exploring the Wilderness Coast - Mallacoota*  
Hosted by Sale and District Field Naturalists' Club  
Payment by **July 29, 2005**

**Mid-Month Excursion - Clunes Swamps**  
Leader- Greg Binns



Greg Binns invited club members to accompany him on Friday July 8<sup>th</sup> to visit the Merin Merin and Middle Swamps at Clunes. The swamps are 8.5 km north of Clunes on the Mt. Cameron Rd.

As well as to check out the amount of water present after the recent rains we were to observe the birds presents. We were hopeful of seeing Brolgas but even though we heard their call we were unable to locate them.

We found that the gumboots we had decked ourselves in were not needed as, except for a few wet patches the big swamp was dry. Compare the photo to the left with the one in our "*Discovering Ballarat's Bushland*" in which a description of the swamps is given.

Where are all the birds gone? On a perch in the centre of the Merin Merin Swamp

**Wind turbines and birds**

In the June 18 edition of "*New Scientist*" there is a report about a study in Denmark of wind turbines and birds. The study was done on a farm with 72 turbines laid out in rows with their blades 480 metres apart. The researchers found that the birds flew almost exclusively down the corridors between the turbines with less than 1% getting close enough to risk collision with the turbines. The birds gave the turbines an even wider berth at night sticking more closely to the centres of the corridors. Many birds also avoided the farm altogether. This study only looked at migrating birds. Previous studies suggest that there are fewer resident birds in the vicinity of these turbines

**Editor**

In July newsletter: On p.5 *Rockland Rd* should read *Rocklyn Rd.* and the correct titles of right-hand photos are, on p.3: *Ant's view of Amanita Ochrophylla* and p.6, *Funnel Pax, Paxillus infundibuliformis*.



## Calendar

### August

Fri 5      *Enhancing Farmers' Environmental Performance* by consultant, Peter Hanrahan  
Sun. 7      Excursion to *Linton Trust for Nature Block*, Leader, club member, Peter Dalman  
\*Tues 16      Committee meeting at Dalman's,  
22-26      FNCB Campout at Ned's Corner.

### September

Fri. 2      *Soils* Troy Clarkson, DPI soil scientist  
\*NB Sat 3      Excursion to *Bacchus Marsh Wetlands*, Susan Clark  
Sat 17, Sun 18 *Angair Wildflower Show* Memorial Hall, McMillan St, Anglesea.

\*\*\*\*\*

Supper duty:	August: Murphys	September Volunteer required
Note-taker	August – Fran Hanrahan	September Volunteer required

\*\*\*\*\*

### Committee

**President**      Mr. Peter Dalman  
**Vice-President**      Mr. Greg Binns  
**Secretary**      Mrs. Carol Hall  
**Treasurer**      Mr. Les Hanrahan

Miss Helen Burgess  
Miss Maureen Christie  
Mrs. Claire Dalman  
Mr. John Gregurke  
Ms Fran Hanrahan (Editor)  
Mrs. Pat Murphy

**Correspondence:** PO. Box 328W, Ballarat West, 3350.

**Email:** Secretary:  
Editor:

**Website:** [www.ballarat.yourguide.com.au](http://www.ballarat.yourguide.com.au) Click on *Local Info*. Search *Environment*.

**Meetings** are held at the Ballarat Horticultural Centre, cnr. Gregory & Gillies Sts (VicRoads 254 F8) on the first Friday of the month at 7.30pm.

**Excursions:** Depart from Ballarat Market Place (formerly Creswick Plaza) Creswick Rd., Ballarat (VicRoads 255 M10) at 9.30 am unless otherwise specified.

A monthly publication of the Field Naturalists' Club of Ballarat Inc.  
Incorporation # A0014919P      ABN 13 150 403 135